Type 65800
Maxi Mix III Rotary Shaker

OPERATION MANUAL
AND PARTS LIST
SERIES 1046

Model #	**Voltage**
M65820-26	230
M65820-26-60	230
M65824	100
M65825	120
M65920	230

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Safety Information

Alert Signals

Warning
Warnings alert you to a possibility of personal injury.

Caution
Cautions alert you to a possibility of damage to the equipment.

Note
Notes alert you to pertinent facts and conditions.

Your Thermolyne Rotary Shaker has been designed with function, reliability, and safety in mind. It is the user's responsibility to install it in conformance with local electrical codes. For safe operation, please pay attention to the alert signals throughout the manual.

Warnings

To avoid electrical shock, always:

1. Use a properly grounded electrical outlet of correct voltage and current handling capacity.

2. Disconnect from the power supply prior to maintenance and servicing.

To avoid personal injury:

1. Do not use in the presence of flammable or combustible materials; fire or explosion may result. This device contains components which may ignite such materials.

2. Do not turn on rotator unless the speed control is turned to minimum; failure to do so may cause accessories and vessels to be thrown off mixer.

3. The motor speed control disk is very sharp - be careful to avoid it while servicing.

4. Refer servicing to qualified personnel.

Introduction

The Thermolyne Type M65800 Rotary Shakers are general purpose laboratory rotators. They are intended for vortexing single or multiple test tubes, flasks, Petri dishes or other laboratory vessels from 100–2200 RPM. Accessory attachments are available for test tube or flask vortexing, Petri dish rotation, flask shaking, and flask and/or tube platform shaking.

Principles of Operation

The rotary shaker consists of a permanently lubricated DC motor and solid state electronic speed control. Pulses from an optical pick-up are converted by the control to a voltage proportional to speed. This voltage is compared to the set point voltage and the control automatically maintains rotator speed even with changes in loading or fluctuations in line voltage. Spring dampened feet are incorporated to prevent unit movement during use.

Unpacking

Unpack the Type M65800 Rotary Shaker from the box. A PT500X6A Vortex Mixer accessory is included with the basic unit.

General Specifications

Height: 5 1/8” (13 cm)

Width : 6 1/2” (16.5 cm)

Depth : 8 1/2” (21.6 cm)

Weight : 15 lb. (6.8 kg)

Electrical Specifications

Model	Volts	Amps	Hz	Approx. Speed (RPM)
M65820-26	230	0.2	50/60	100-2200
M65820-26-60	230	0.2	50/60	100-2200
M65824	100	0.5	50/60	100-2200
M65825	120	0.4	50/60	100-2200

The electrical specifications are also located on the specification plate on the bottom of the unit.

Installation

Warning
To avoid electrical shock, use with a properly grounded electrical outlet of correct voltage and current handling capacity.

Warning
To avoid personal injury, do not use in the presence of flammable or combustible chemicals — fire or explosion may result. This device contains components which may ignite such materials.

1. Place the rotary shaker on a sturdy, flat surface.
2. Plug it in.

Operation

Warning
To avoid personal injury, do not turn the rotator on unless the speed control is turned to minimum; failure to do so may cause accessories and vessels to be thrown off the rotary shaker.

Power Switch

The power switch enables power to the motor and speed control to be turned on and off.

Speed Control

The speed is set by means of a single turn adjustment knob. Markings on the dial plate indicate approximate speed from 100–2200 RPM.

Operating Specifications

The Maxi Mix III is rated for continuous use.
Orbit size: 4 mm.
Maximum recommended load capacity is 5 lb (2.3 kg).
(Dependent on type of load and accessory combination.)
Ambient temperature range: 5 – 40°C
Relative humidity range: 20-80%

Accessories

Accessories for the Type 65800 Rotary Shakers must be ordered separately. Contact your dealer for the following Thermolyne part numbers:

- PT500X6A, Vortex accessory
- PT500X7A, Petri dish platform accessory
- PT500X8A, Flask shaking accessory
- PT500X9A, Flask/test tube rack platform accessory

Accessory Installation

1. Loosen the two front thumbscrews securing the foam rubber platform supplied with the Maxi-Mix III. Remove the one back thumbscrew securing the foam rubber platform. Remove the foam rubber platform.

2. Place the desired accessory on top of the rotary shaker. Replace the one back thumbscrew. Tighten the two front thumbscrews to secure the attachment.

Troubleshooting

Warning
To avoid electrical shock, always disconnect from power supply before maintenance and servicing. Refer servicing to qualified personnel.

This Troubleshooting guide is intended to aid in defining and correcting possible service problems.

Problem	**Possible Causes**	**Solution**
Rotary shaker will not rotate	No power to unit	Check that unit is plugged into receptacle of the correct voltage
	Blown fuses*	Replace fuses*
	Defective motor	Replace motor
	Defective speed control circuit board	Replace PC board
	Transformer open circuit	Replace transformer
Rotary shaker speed will not regulate, turns at some intermediate speed	Defective set point potentiometer.	Replace potentiometer
Rotary shaker runs at full speed, will not slow down	Defective transistor on	Replace transistor main circuit board

** M65820-26-60 only*

Maintenance and Servicing

Warning
To avoid electrical shock, always disconnect from power supply before maintenance and servicing. Refer servicing to qualified personnel.

Warning
The motor speed control disk is very sharp — be careful to avoid it while servicing.

Servicing the internal components of the rotator

1. Remove the accessory in use.
2. Remove the four screws securing the top to the motor assembly.
3. Pull up firmly to remove the top from the unit.
4. Remove the four screws securing the top case to the bottom rotator plate.
5. Replace defective components.
6. Reassemble in the reverse order using steps 4-1.

Replacement Parts

Warning
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Model Type: **M65800**
Product Name: **Maxi Mix III Rotary Shaker**
Series Number: **1046**

Part No.	Qty.	Description
BRX25	2	Bearing
CR500X1		Cord set assembly (100V, 120V)
CR500X2		Cord set assembly (230V)
KBX27		Knob
MT1046X1A		Motor assembly
PC658X1A		Speed control board
RS658X1A		Control potentiometer
SRX10		Strain relief
SWX137		Switch, power (100V, 120V)
SWX138		Switch, power (230V)
FTX7	4	Foot
SP500X1	4	Spring
TN658X1A		Transformer for M65825
TN658X2A		Transformer for M65824
TN658X3A		Transformer for M65820-26, M65820-26-60
5120-0016		Fuse for M65820-26-60
FZX54	1	Fuse for M65824 & M65825 (Type T, 250 volt, .63 Amp)

Ordering Procedures

Please refer to the Specification Plate for the complete model number, serial number, and series number when requesting service, replacement parts or in any correspondence concerning this unit.

All parts listed herein may be ordered from the **Barnstead|Thermolyne** dealer from whom you purchased this unit or can be obtained promptly from the factory. When service or replacement parts are needed we ask that you check first with your dealer. If the dealer cannot handle your request, then contact our Customer Service Department at 319-556-2241 or 800-553-0039.

Prior to returning any materials to **Barnstead|Thermolyne Corp**., please contact our Customer Service Department for a “Return Goods Authorization” number (RGA). Material returned without a RGA number will be refused.

One Year Limited Warranty

Barnstead|Thermolyne Corporation warrants that if a product manufactured by Barnstead|Thermolyne and sold by it within the continental United States or Canada proves to be defective in material or construction, it will provide you, without charge, for a period of ninety (90) days, the labor, and a period of one (1) year, the parts, necessary to remedy any such defect. Outside the continental United States and Canada, the warranty provides, for one (1) year, the parts necessary to remedy any such defect. The warranty period shall commence either six (6) months following the date the product is sold by Barnstead|Thermolyne or on the date it is purchased by the original retail consumer, whichever date occurs first.

All warranty inspections and repairs must be performed by and parts obtained from an authorized Barnstead|Thermolyne dealer or Barnstead|Thermolyne (at its own discretion). Heating elements, however, because of their susceptibility to overheating and contamination, must be returned to our factory, and if, upon inspection, it is concluded that failure is not due to excessive high temperature or contamination, warranty replacement will be provided by Barnstead|Thermolyne. The name of the authorized Barnstead|Thermolyne dealer nearest you may be obtained by calling 1-800-446-6060 (319-556-2241) or writing to:

Barnstead|Thermolyne
P.O. Box 797
2555 Kerper Boulevard
Dubuque, IA 52004-0797
USA
FAX: (319) 589-0516
E-MAIL ADDRESS: mkt@barnstead.com

Barnstead|Thermolyne's sole obligation with respect to its product shall be to repair or (at its own discretion) replace the product. Under no circumstances shall it be liable for incidental or consequential damage.

THE WARRANTY STATED HEREIN IS THE SOLE WARRANTY APPLICABLE TO **Barnstead|Thermolyne** PRODUCTS. **Barnstead|Thermolyne** EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR USE.

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